

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Major, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9 VAC 25-260. The discharge results from the treatment of municipal wastewater (SIC Code: 4952 – Sewerage Systems). This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:

Elkton STP
173 West Spotswood Avenue
Elkton, VA 22827
Location: 15917 Old Spotswood Trail, Elkton

2. Permit No. VA0026433

Expiration Date: December 31, 2011

3. Owner Contact: Name: Kevin Fauber
 Title: Town Manager
 Telephone No: 540-298-9860

4. Application Complete Date: July 17, 2007

Permit Drafted By: Dawn Jeffries
Reviewed By: Keith Showman

Date: May 2, 2011
Date: October 6, 2011

Public Comment Period: November 16, 2011 to December 16, 2011

5. Receiving Stream Name: South Fork Shenandoah River River Mile: 85.07
 Basin: Potomac Subbasin: Shenandoah
 Section: 3 Class: IV
 Special Standards: pH
 Impaired ☒ Yes ☐ No Tidal Waters ☐ Yes ☒ No
Watershed Name: VAN-B35R SF Shenandoah River\Elk Run\Boone Run

6. Operator License Requirements per 9 VAC 25-31-200.C: III for the 0.4 MGD facility
 II for the 1.0 MGD & 2.0 MGD facilities

7. Reliability Class per 9 VAC 25-790: II (Assigned March 10, 1978)

8. Permit Characterization:

☐ Private ☐ Federal ☐ State ☒ POTW ☐ PVOTW
☐ Possible Interstate Effect ☒ Interim Limits in Other Document

9. Description of Treatment Works Treating Domestic Sewage:

Appendix A

Total Number of Outfalls = 1
Operation and Maintenance (O&M) Manual: Approved October 24, 2006

10. Discharge Location Description and Receiving Waters Information:

Appendix B

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11. Antidegradation Review & Comments per 9 VAC 25-260-30: Tier: 1

The State Water Control Board's WQS includes an antidegradation policy. All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. The South Fork Shenandoah River in the immediate vicinity and below the discharge is determined to be a Tier 1 water. This finding is based on the fact that the stream is included on the currently approved 303(d) list for not meeting the General Standard (Benthics) for aquatic life use. Antidegradation baselines are not calculated for Tier 1 waters.

12. Site Inspection: Performed by: Noel Thomas Date: May 4, 2011

13. Effluent Screening and Effluent Limitations: **Appendix C**

14. Effluent toxicity testing requirements included per 9 VAC 25-31-220.D: ☒ Yes ☐ No **Appendix D**

15. Management of Sewage Sludge:

The Sludge Management Plan (SMP) is reapproved as part of the permit reissuance application. Sludge is stored in an aerobic digester, and is then dried and hauled to the Rockingham County Landfill for disposal.

16. Permit Changes and Bases for Special Conditions: **Appendix E**

17. Material Storage per 9 VAC 25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

18. Antibacksliding Review per 9 VAC 25-31-220.L: This permit complies with the Antibacksliding provisions of the VPDES Permit Regulation.

19. Impaired Use Status Evaluation per 9 VAC 25-31-220.D: The South Fork Shenandoah River in the immediate vicinity of the discharge is listed as impaired in the current approved 303(d) list for "Fish Consumption" due to mercury contamination, bacteria, and aquatic life (Benthics). TMDLs for the bacteria and mercury contamination have been prepared and approved for the segment. The facility was not assigned a WLA in the mercury TMDL because the effluent from this facility is not expected to contain mercury. The facility was assigned an E. coli WLA in the bacteria TMDL of 3.48×10^{12} cfu/yr. The permit contains a re-opener condition that may allow the permit limits to be modified, in compliance with section 303(d)(4) of the Act once a TMDL is approved.

20. Regulation of Users per 9 VAC 25-31-280.B.9: N/A – This facility is owned by a municipality.

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21. Storm Water Management per 9 VAC 25-31-120: Application Required? ☐ Yes ☒ No

If “No,” check one:

- ☒ STPs: This facility does not have a design flow ≥ 1.0 MGD, nor is it required to have an approved POTW pretreatment program under 9 VAC 25-31-10 et seq.
☐ Others: This facility's SIC Code(s) and activities do not fall within the categories for which a Storm Water Application submittal is required.

No storm water requirements have been included in the permit. Because the permit includes effluent requirements for proposed expansion flow tiers ≥ 1.0 MGD that would require a Storm Water Application be submitted, a special condition is included in the permit that describes the application process.

22. Compliance Schedule s per 9 VAC 25-31-250: None required by this permit.
23. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100.M: The permittee has requested waivers from sampling and reporting temperature, dissolved oxygen, oil & grease, total dissolved solids, and total residual chlorine as part of the application. The waiver requests have been approved based on the justification provided by the permittee.
24. Financial Assurance Evaluation per 9 VAC 25-650-10: N/A – This facility is owned by a municipality.
25. Nutrient Trading Regulation per 9 VAC 25-820:
Watershed General Permit (WGP) Required: ☒ Yes ☐ No Permit No.: VAN010144
Date General Permit Effective: January 1, 2007
The annual waste load allocations (WLAs) for Elkton STP are Total Nitrogen (TN) = 22,780 lbs/yr and Total Phosphorus (TP) = 3,045 lbs/yr.
26. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8: Because this is not an issuance or reissuance that allows increased discharge flows, T&E screening is not automatically required. However, in accordance with the VPDES Memorandum of Understanding, T&E screening was coordinated on April 14, 2011 through DCR and DGIF based upon request. Comments were received from DCR on April 18, 2011 and from DGIF May 24, 2011 and are included in the permit processing file. These comments were considered in the drafting of the permit and were also forwarded to the permittee.
27. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: Is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☒ No
28. Public Notice Information per 9 VAC 25-31-290: All pertinent information is on file, and may be inspected and copied by contacting Dawn Jeffries at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7898, dawn.jeffries@deq.virginia.gov.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

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29. Historical Record:

May 1, 1957 – SWCB Certificate No. 1072 issued to the Town of Elkton.

June 1, 1971 – SWCB approved revocation of SWCB Certificate No. 434.

May 18, 1973 – SWCB, by letter ballot, approved revocation of SWCB Certificate No. 1072.

May 18, 1973 – SWCB Certificate No. 2349 issued to the Town of Elkton.

June 14, 1975 – SWCB, by letter ballot, approved revocation of SWCB Certificate No. 2349.

January 31, 1975 – First issuance date for VPDES Permit No. VA0026433.

January 15, 1977 – Permit reissued. References STP shall be operated in accordance with the approval by the SWCB memorandum No. 4443.S dated December 1, 1977. [EFFLUENT LIMITS TO EXPIRE 6/30/77 ==> BOD₅: MA = 156 mg/L; WA = 234 mg/L; Avg = 177 kg/d or 390 lb/d. TSS: MA = 120 mg/L; WA = 180 mg/L; Avg = 136 kg/d or 300 lb/d. Design flow = 0.3 MGD. EFFLUENT LIMITS EFFECTIVE 7/1/77 ==> BOD₅ and TSS: MA = 30 mg/L; WA = 45 mg/L; Avg = 45.4 kg/d or 100 lb/d. Design flow = 0.4 MGD.]

March 10, 1978 – Permit modified to include final limits (per Consent Order effective this date) and states determination that facility is subject to Reliability Class II.

October 12, 1978 – Approved Plans & Specifications proposing an extended aeration treatment facility which consists of a mechanically cleaned bar screen with a bypass, two aeration basins, two secondary clarifiers, two aerobic digesters, two chlorine contact chambers, and an effluent flow measuring device. Submitted to the Executive Secretary by letter Ballot Number 5102-S this date. (Design Average Flow = 0.4 MGD, BOD₅ and TSS = 30 mg/L.)

December 6, 2004 – Ceased disinfection by chlorination. Initiated UV disinfection

January 11, 2007 – Permit reissued with additional flow tiers of 1.0 MGD & 2.0 MGD.

APPENDIX A

DESCRIPTION OF TREATMENT WORKS TREATING DOMESTIC SEWAGE

Outfall 001

Operations Contributing Wastewater:

The facility serves residential and business domestic sewage sources at approximately 1,200 billing addresses within the service area.

Treatment Works Description (Unit by unit)

Manual (coarse) bar screen, submersible screw pumps (2), mechanical bar screen, activated sludge aeration tanks (2), traveling bridge clarifiers (2), sludge return, aerobic sludge digesters (2), covered sludge drying beds (2), flow measurement, belt press, UV disinfection, and post aeration cascade.

Dried sludge is disposed of at the Rockingham County Landfill.

Flow:

Design Average Flow = 0.4 MGD

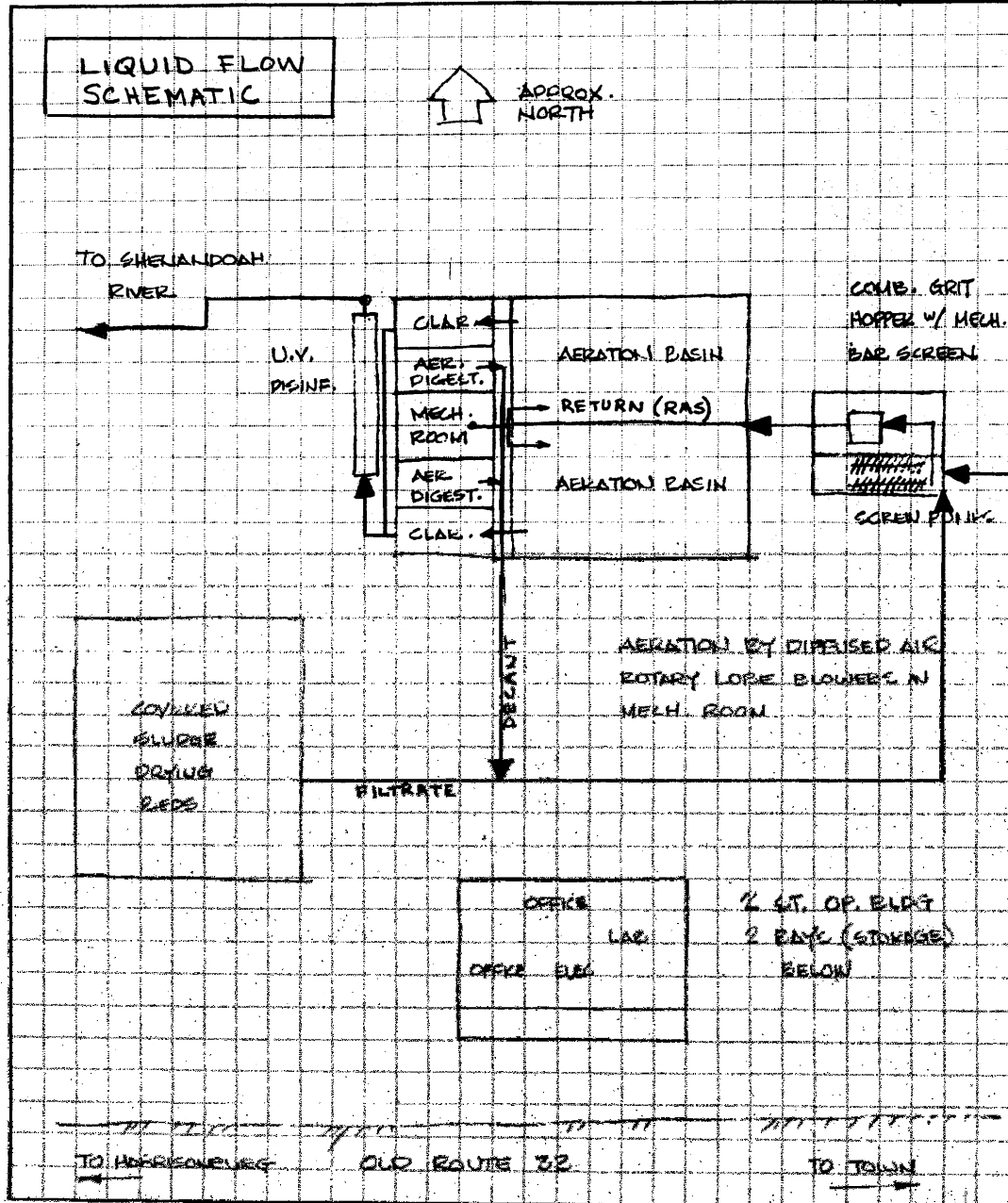
Expansion Flow Tiers = 1.0 MGD & 2.0 MGD

Monthly Average Flow (March 2010 – February 2011) = 0.38 MGD

Flow Schematic

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JOB ELKTON WWTP.
SHEET NO. _____ OF _____
CALCULATED BY CFL DATE 12/27/05
CHECKED BY _____ DATE _____
SCALE WWTP GENERAL LAYOUT



APPENDIX B

DISCHARGE LOCATION DESCRIPTION AND RECEIVING WATERS INFORMATION

This facility discharges to the South Fork Shenandoah River in Elkton, Virginia. The locations of the STP and Outfall 001 are shown on the topographic map below.

Relevant points of interest within the watershed and in the vicinity of the discharge are shown on the enclosed Water Quality Assessment TMDL Review and corresponding map.

Critical flows in the receiving stream at the discharge point are described in a Flow Frequency Determination that is presented on page 4 of this appendix.

Mixing zone predictions were performed using information specific to the discharge and receiving stream characteristics with the Agency's Virginia DEQ Mixing Zone Analysis Version 2.1 program. Annual average conditions were examined, and the results are presented on page 5 of this appendix.



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WATER QUALITY ASSESSMENTS REVIEW						
POTOMAC-SHENANDOAH RIVER BASIN						
3/22/2011						
IMPAIRED SEGMENTS						
SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER	
B32R-02-HG	South River/NF Shenandoah River	163.27	8.16	155.11	Mercury in Fish Tissue	
B33R-01-BAC	South Fork Shenandoah River	100.97	41.98	58.99	Fecal Coliform	
B33R-01-BEN	South Fork Shenandoah River	100.97	41.98	58.99	Benthic	
B35R-01-BAC	Boone Run	13.08	0.00	13.08	Fecal Coliform	
B35R-02-BAC	Quail Run	5.54	0.00	5.54	E-coli, Fecal Coliform	
B35R-02-BEN	Quail Run	4.26	0.00	4.26	Benthic	
B36R-01-BEN	Naked Creek	12.44	0.00	12.44	Benthic	
PERMITS						
PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0026433	Elkton STP	S.F. Shenandoah River	85.07	382437	783807	VAV-B35R
VA0002178	Merck Sharp & Dehome Corp.	S.F. Shenandoah River	88.09	382316	783841	VAV-B35R
VA0024732	Massanutten Public Service S	Quail Run	5.07	382418	784246	VAV-B35R
VA0072931	McGaheysville STP	S.F. Shenandoah River	93.17	382055	784225	VAV-B35R
VA0073245	MillerCoors Brewing Co. - She	S.F. Shenandoah River	90.99	382120	784143	VAV-B35R
VA0073245	MillerCoors Brewing Co. - She	Gap Run X-Trib	0.56	382106	784026	VAV-B35R
MONITORING STATIONS						
STREAM	NAME	RIVER MILE	RECORD	LAT	LONG	
Hawksbill Creek	1BHL002.23	2.23	05/01/96	382221	783623	
Quail Run	1BQAL004.47	4.47	10/01/96	382418	784200	
Quail Run	1BQAL004.89	4.89	10/01/96	382419	784245	
Quail Run	1BQAL005.09	5.1	10/01/96	382418	784248	
Quail Run	1BQAL005.04	5.04		382419	784244	
S.F. Shenandoah River	1BSSF086.12	86.12	05/04/06	382355	783736	
Naked Creek	1BNAK001.24	1.24	07/01/91	382740	783620	
Quail Run	1BQAL004.30	4.3	07/01/97	382418	784200	
Boone Run	1BBON000.60	0.6	07/01/91	382601	783809	
Quail Run	1BQAL005.29	5.29	07/01/97	382417	784303	
S.F. Shenandoah River	1BSSF092.46	92.46	07/01/99	382117	784146	
S.F. Shenandoah River	1BSSF085.08	85.08	09/23/99	382433	78387	
S.F. Shenandoah River	1BSSF088.20	88.2	03/19/02	382318	783847	
S.F. Shenandoah River	1BSSF092.69	92.69	09/23/99	382112	784159	
Quail Run	1BQAL004.82	4.82				
Quail Run	1BQAL004.96	4.96				
Boone Run	1BBON001.46	1.46	07/01/03	382515	783821	
PUBLIC WATER SUPPLY INTAKES						
OWNER	STREAM	RIVER MILE				
None						
WATER QUALITY MANAGEMENT PLANNING REGULATION						
Is this discharge addressed in the WQMP regulation? No						
If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?						
PARAMETER	ALLOCATION					
WATERSHED NAME						
VAV-B35R South Fork Shenandoah River/Elk Run/Boone Run						

Elkton STP - Water Quality Assessments Review
March 22, 2011



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MEMORANDUM DEPARTMENT OF ENVIRONMENTAL QUALITY VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000

Harrisonburg, VA 22801

SUBJECT: Flow Frequency Determination
Elkton STP – VPDES Permit No. VA0026433, Rockingham County

TO: Permit Processing File

FROM: Dawn Jeffries

DATE: March 15, 2011

This memo supersedes Eric Aschenbach's flow frequency determination dated September 7, 2006. The subject facility discharges to the South Fork Shenandoah River in Elkton, Virginia. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit reissuance.

The USGS and VDEQ have operated a continuous record gage on the South Fork Shenandoah River near Lynnwood, Virginia (#01628500) since September 1930. The gage is located approximately 15 miles upstream of the discharge point. Discharges from MillerCoors LLC – Shenandoah Brewery (VA0073245) and Merck Sharp & Dohme Corp. – Stonewall Plant (VA0002178) enter the South Fork Shenandoah River below the gage but upstream of the Elkton STP discharge point. The flow frequencies for the discharge point were determined using a drainage area comparison. The average monthly flows of the permitted dischargers over the previous 5 years were added to the calculated stream flows. The flow frequencies are presented below:

South Fork Shenandoah River near Lynnwood, VA (#01628500):

Drainage Area = 1079 mi²

1Q30 = 113 cfs	High Flow 1Q10 = 219 cfs
1Q10 = 139 cfs	High Flow 7Q10 = 240 cfs
7Q10 = 147 cfs	High Flow 30Q10 = 285 cfs
30Q10 = 162 cfs	HM = 479 cfs
30Q5 = 188 cfs	

South Fork Shenandoah River at discharge point:

Drainage Area = 1209 mi²

1Q30 = 127 cfs (82.1 mgd)	High Flow 1Q10 = 245 cfs (158 mgd)
1Q10 = 156 cfs (101 mgd)	High Flow 7Q10 = 269 cfs (174 mgd)
7Q10 = 165 cfs (107 mgd)	High Flow 30Q10 = 319 cfs (206 mgd)
30Q10 = 182 cfs (118 mgd)	HM = 537 cfs (347 mgd)
30Q5 = 211 cfs (136 mgd)	

Upstream Discharges:

MillerCoors LLC – Shenandoah Brewery Outfall 001 =	1.39 MGD
MillerCoors LLC – Shenandoah Brewery Outfall 002 =	0.66 MGD
Merck Sharp & Dohme Corp. – Stonewall Plant =	10.86 MGD

South Fork Shenandoah River at discharge point, including discharges:

Drainage Area = 1209 mi²

1Q30 = 82.1 + 1.39 + 0.66 + 10.86 = 95.0 MGD	HF 1Q10 = 158 + 1.39 + 0.66 + 10.86 = 171 MGD
1Q10 = 101 + 1.39 + 0.66 + 10.86 = 114 MGD	HF 7Q10 = 174 + 1.39 + 0.66 + 10.86 = 187 MGD
7Q10 = 107 + 1.39 + 0.66 + 10.86 = 120 MGD	HF 30Q10 = 206 + 1.39 + 0.66 + 10.86 = 219 MGD
30Q10 = 118 + 1.39 + 0.66 + 10.86 = 131 MGD	HM = 347 + 1.39 + 0.66 + 10.86 = 360 MGD
30Q5 = 136 + 1.39 + 0.66 + 10.86 = 149 MGD	

The high flow months are January through May.

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Annual Mixing Zone Predictions (Virginia DEQ Mixing Zone Analysis Version 2.1)

Effluent Flow = 0.4 MGD
Stream 7Q10 = 120 MGD
Stream 30Q10 = 131 MGD
Stream 1Q10 = 114 MGD
Stream slope = 0.001 ft/ft
Stream width = 115 ft
Bottom scale = 2
Channel scale = 1

Effluent Flow = 1.0 MGD
Stream 7Q10 = 120 MGD
Stream 30Q10 = 131 MGD
Stream 1Q10 = 114 MGD
Stream slope = 0.001 ft/ft
Stream width = 115 ft
Bottom scale = 2
Channel scale = 1

Effluent Flow = 2.0 MGD
Stream 7Q10 = 120 MGD
Stream 30Q10 = 131 MGD
Stream 1Q10 = 114 MGD
Stream slope = 0.001 ft/ft
Stream width = 115 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = 1.859 ft
Length = 10139.27 ft
Velocity = .8718 ft/sec
Residence Time = .1346 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 7Q10

Depth = 1.8647 ft
Length = 10113.13 ft
Velocity = .8735 ft/sec
Residence Time = .134 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 7Q10

Depth = 1.874 ft
Length = 10070.3 ft
Velocity = .8763 ft/sec
Residence Time = .133 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 1.9605 ft
Length = 9689.01 ft
Velocity = .9022 ft/sec
Residence Time = .1243 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 1.9659 ft
Length = 9666.11 ft
Velocity = .9038 ft/sec
Residence Time = .1238 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = 1.9749 ft
Length = 9628.73 ft
Velocity = .9065 ft/sec
Residence Time = .1229 days

Recommendation: A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = 1.8022 ft
Length = 10411.86 ft
Velocity = .8545 ft/sec
Residence Time = 3.3848 hours

Recommendation: A complete mix assumption is appropriate for this situation providing no more than 29.54% of the 1Q10 is used.

Mixing Zone Predictions @ 1Q10

Depth = 1.8079 ft
Length = 10383.63 ft
Velocity = .8562 ft/sec
Residence Time = 3.3687 hours

Recommendation: A complete mix assumption is appropriate for this situation providing no more than 29.69% of the 1Q10 is used.

Mixing Zone Predictions @ 1Q10

Depth = 1.8174 ft
Length = 10337.12 ft
Velocity = .8591 ft/sec
Residence Time = 3.3422 hours

Recommendation: A complete mix assumption is appropriate for this situation providing no more than 29.92% of the 1Q10 is used.

APPENDIX C

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed, and the most stringent limits were selected. The selected limits are summarized in the table below.

Outfall 001

Final Limits

Design Flow: 0.4 MGD

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Avg.		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		Continuous	TIRE
-----	-----	Monthly Avg.		Weekly Avg.		-----	-----
BOD ₅	2,3,4	30 mg/L	45 kg/d	45 mg/L	68 kg/d	3 Days/Week	8 HC
TSS	2	30 mg/L	45 kg/d	45 mg/L	68 kg/d	3 Days/Week	8 HC
Effluent Chlorine (TRC)*	3	0.74 mg/L		0.83 mg/L		3/ Day @ 4-hour intervals	Grab
E. coli** (geometric mean)	3	126 N/100 mL		NA		4/Month* or 3 Days/Week** 10 am to 4 pm	Grab
-----	-----	Minimum		Maximum		-----	-----
pH	3	6.5 S.U.		9.5 S.U.		1/Day	Grab
Contact Chlorine (TRC)*	3,5	1.0 mg/L		NA		3/ Day @ 4-hour intervals	Grab

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording equipment

8 HC = 8-Hour composite sample

4/Month = 4 samples taken weekly during the calendar month

* = Applicable only when chlorination is used for disinfection

** = Applicable if an alternative to chlorination is used for disinfection.

Bases for Effluent Limitations

1. VPDES Permit Regulation (9 VAC 25-31)
2. Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)
3. Water Quality Standards (9 VAC 25-260)
4. Regional Stream Model simulation
5. Best Professional Judgment (BPJ)

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Outfall 001

Final Limits

Design Flow: 1.0 MGD

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow	4	NL		NL		Continuous	TIRE
-----	-----	Monthly Average		Weekly Average		-----	-----
BOD ₅	2,5	12 mg/L	45 kg/d	18 mg/L	68 kg/d	5 Days/Week	24 HC
TSS	1	30 mg/L	110 kg/d	45 mg/L	170 kg/d	1/Month	24 HC
Effluent Chlorine (TRC)*	3	0.30 mg/L		0.33 mg/L		4/ Day @ 4-hour intervals	Grab
E. coli (geometric mean)	3,6	126 N/100 mL		NA		4/Month* or 5 Days/Week** 10 am to 4 pm	Grab
-----	-----	Annual Average		Maximum		-----	-----
TP – Year to Date	7	NL (mg/L)		NA		1/Month	Calculated
TP – Calendar Year	7,8	0.30 mg/L		NA		1/Year	Calculated
TN – Year to Date	7	NL (mg/L)		NA		1/Month	Calculated
TN – Calendar Year	7,8	3.0 mg/L		NA		1/Year	Calculated
-----	-----	Minimum		Maximum		-----	-----
pH	3	6.5 S.U.		9.5 S.U.		1/Day	Grab
Dissolved Oxygen	2,3	5.0 mg/L		NA		1/Day	Grab
Contact Chlorine (TRC)*	2,3	1.0 mg/L		NA		4/ Day @ 4-hour intervals	Grab

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording equipment

24 HC = 24-Hour composite sample

4/Month = 4 samples taken weekly during the calendar month

* = Applicable only when chlorination is used for disinfection

** = Applicable if an alternative to chlorination is used for disinfection.

Bases for Effluent Limitations

1. Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)
2. Best Professional Judgment (BPJ)
3. Water Quality Standards (9 VAC 25-260)
4. VPDES Permit Regulation (9 VAC 25-31)
5. Regional Stream Model simulation
6. South Fork Shenandoah River Bacteria TMDL, approved 12/3/09
7. Guidance Memo No. 07-2008, Amendment No. 2, 10/23/07, Permitting Considerations for Facilities in the Chesapeake Bay Watershed
8. Annual average concentration limits are based on the Technology Regulation (VAC 25-40)

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Outfall 001

Final Limits

Design Flow: 2.0 MGD

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average		Maximum		Frequency	Sample Type
Flow	4	NL		NL		Continuous	TIRE
-----	-----	Monthly Average		Weekly Average		-----	-----
BOD ₅	2,5	6 mg/L	45 kg/d	9 mg/L	68 kg/d	5 Days/Week	24 HC
TSS	1	30 mg/L	230 kg/d	45 mg/L	340 kg/d	1/Month	24 HC
Effluent Chlorine (TRC)*	3	0.15 mg/L		0.17 mg/L		4/ Day @ 4-hour intervals	Grab
E. coli (geometric mean)	3,6	126 N/100 mL		NA		4/Month* or 5 Days/Week** 10 am to 4 pm	Grab
-----	-----	Annual Average		Maximum		-----	-----
TP – Year to Date	7	NL (mg/L)		NA		1/Month	Calculated
TP – Calendar Year	7,8	0.30 mg/L		NA		1/Year	Calculated
TN – Year to Date	7	NL (mg/L)		NA		1/Month	Calculated
TN – Calendar Year	7,8	3.0 mg/L		NA		1/Year	Calculated
-----	-----	Minimum		Maximum		-----	-----
pH	3	6.5 S.U.		9.5 S.U.		1/Day	Grab
Dissolved Oxygen	2,3	5.0 mg/L		NA		1/Day	Grab
Contact Chlorine (TRC)*	2,3	1.0 mg/L		NA		4/ Day @ 4-hour intervals	Grab

NL = No Limitation, monitoring required

NA = Not Applicable

TIRE = Totalizing, Indicating, and Recording equipment

24 HC = 24-Hour composite sample

4/Month = 4 samples taken weekly during the calendar month

* = Applicable only when chlorination is used for disinfection

** = Applicable if an alternative to chlorination is used for disinfection.

Bases for Effluent Limitations

1. Federal Effluent Requirements (Secondary Treatment Regulation - 40CFR133)
2. Best Professional Judgment (BPJ)
3. Water Quality Standards (9 VAC 25-260)
4. VPDES Permit Regulation (9 VAC 25-31)
5. Regional Stream Model simulation
6. South Fork Shenandoah River Bacteria TMDL, approved 12/3/09
7. Guidance Memo No. 07-2008, Amendment No. 2, 10/23/07, Permitting Considerations for Facilities in the Chesapeake Bay Watershed
8. Annual average concentration limits are based on the Technology Regulation (VAC 25-40)

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

LIMITING FACTORS – OVERVIEW:

The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (9 VAC 25-720)	
A. TMDL limits	E. coli
B. Non-TMDL WLAs	None
C. CBP (TN & TP) WLAs	TN and TP by coverage under VAN010144
Federal Effluent Guidelines	BOD ₅ , TSS, pH
BPJ/Agency Guidance limits	TRC (contact), Ammonia-N
Water Quality-based Limits - numeric	BOD ₅ , DO, Ammonia-N, TRC (effluent), E. coli, pH
Water Quality-based Limits - narrative	None
Toxics Management Plan (TMP)	See Appendix D
VPDES Individual Permit Regulation	Flow
VPDES General Permit Regulations	None

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS

This discharge was previously modeled in a 1998 Model (Addendum #2) for the upstream discharger, Merck & Company Inc - Stonewall Plant (VA0002178). To ensure protection of water quality in the South Fork Shenandoah River, the discharge for the existing 0.4 MGD facility was remodeled at this reissuance using the Regional Stream Model (v.4.11). Model results indicate that the values below are protective of instream water quality downstream of the discharge. The modeling information is maintained in the DEQ-VRO receiving stream DO model file s.

Parameter	0.4 MGD	1.0 MGD	2.0 MGD
CBOD ₅ (mg/L)	25	12	6
TKN (mg/L)	20	10	10
DO (mg/L)	0	5	5

Because a cBOD₅ concentration of 25 mg/L is equivalent to a BOD₅ concentration of 30 mg/L, a BOD₅ permit limit of 30 mg/L has been carried forward from the previous permit for the 0.4 MGD flow tier.

Because the model demonstrated that an effluent DO of 0 mg/L was protective, this permit does not include a DO limit for the existing 0.4 MGD flow tier.

Based on the model, it was determined that no TKN limits were needed for the 0.4 MGD flow tier because a sewage treatment plant is not expected to discharge effluent with TKN concentrations greater than 20 mg/L.

As in the previous permit for the expansion flow tiers, the monthly average BOD₅ loading limit of 45 kg/d for the 0.4 MGD flow tier has been applied and the concentrations derived from that load. The concentration limits are expressed as BOD₅ and are more conservative than the modeled CBOD₅ values. A minimum DO limit of 5.0 mg/L has been carried forward from the previous permit for the expansion flow tiers per current agency guidance. No TKN limits were included at the expanded flow tiers because an expanded facility with the required state-of-the-art nutrient removal technology would not be expected to discharge effluent with TKN concentrations greater than 10 mg/L.

The TSS limits are consistent with the Secondary Treatment Regulation and have been carried forward from the previous permit.

The pH limits reflect the current WQS for pH in the receiving stream and have been carried forward from the previous permit.

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

EVALUATION OF THE EFFLUENT – DISINFECTION

The E. coli limits have been carried forward from the previous permit and apply regardless of the means of disinfection. These limits reflect the current WQS for E. coli in the receiving stream and comply with the TMDL WLA of 3.48×10^{12} cfu/yr. The WLA is based on a concentration of 126 cfu/100 mL and a design flow of 2.0 MGD. The monitoring frequency has been increased to 3/Week for the 0.4 MGD flow tier and 5/Week for the 1.0 and 2.0 MGD flow tiers per current guidance. Chlorine limits are also specified in the permit, but are only applicable should the facility need to utilize chlorine disinfection. If chlorination is utilized for disinfection, E. coli monitoring is required 4/Month to demonstrate compliance with the limit.

EVALUATION OF THE EFFLUENT – NUTRIENTS

In accordance with § 62.1-44.19:14.C.5. of the Code of Virginia, this Significant Discharger has submitted a Registration Statement and DEQ has recognized that they are covered under the General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820-10 *et seq.*). The effective date of coverage is January 1, 2007. Coverage under the General Permit will expire December 31, 2011.

Pursuant to section 62.1-44.19:12 - :19 of the law, Total Nitrogen (TN) and Total Phosphorus (TP) baselines are being established for this facility to represent nutrient discharge allowances as of July 1, 2005. Once established, these baselines will be used as a limiting factor should the facility ever expand or have a significant increase in effluent TN or TP concentrations. For municipal facilities, the baselines are based on the permitted design capacity of the facility. The permitted design capacity is defined as

$$\text{Total N or P (lb/yr)} = \text{concentration (mg/L)} \times \text{design flow (MGD)} \times 8.3438 \times 365 \text{ (days/yr)}$$

where

Design flow – as of July 1, 2005, the approved flow was 0.4 MGD

Concentration – the treatment provided as of July 1, 2005 was TN = 18.7 mg/L and TP = 2.5 mg/L
(assumed concentrations based on secondary treatment facility)

0.4 MGD

$$\text{TN} = 18.7 \text{ mg/l} \times 0.4 \text{ MGD} \times 8.3438 \times 365 \text{ days/yr} = 22,780 \text{ lb/yr}$$

$$\text{TP} = 2.5 \text{ mg/l} \times 0.4 \text{ MGD} \times 8.3438 \times 365 \text{ days/yr} = 3,045 \text{ lb/yr}$$

Annual average concentration limits of TN= 3.0 mg/l and TP = 0.3 mg/L have been included for the 1.0 MGD and 2.0 MGD flow tiers per the requirements of the Technology Regulation 9 VAC 25-40-70.

At 3.0 mg/L TN and 0.3 mg/L TP, the expansion flow tier loads will be less than the permitted design capacity; therefore, no offset plan is needed.

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS

Receiving Stream Data

Water quality data for the receiving stream were obtained from Ambient Monitoring Station No. 1BSSF078.20 on the South Fork Shenandoah River.

Stream Parameter	Value	Units
Mean Hardness (as CaCO ₃) =	133	mg/L
90 th Percentile Temperature (Annual) =	24.4	°C
90 th Percentile Maximum pH =	8.8	SU
10 th Percentile Maximum pH =	7.6	SU

Effluent Data

The pH and temperature values were obtained from the daily operational data submitted by the permittee. The hardness value was obtained from samples collected by DEQ.

Effluent Parameter	Value	Units
Mean Hardness (as CaCO ₃) =	166	mg/L
90 th Percentile Temperature (Annual) =	24.2	°C
90 th Percentile Maximum pH =	7.4	SU
10 th Percentile Maximum pH =	7.1	SU

WQC and WLAs were calculated for the WQS parameters for which data are available. Those WQC and WLAs are presented in this appendix. Current agency guidelines recommends the evaluation of toxic pollutant limits for TRC and Ammonia -N based on default effluent concentrations of 20 mg/L and 9 mg/L, respectively. The effluent data were analyzed per the protocol for evaluation of effluent toxic pollutants included in this appendix with the following results:

- TRC: Less stringent limits were determined to be necessary at all flow tiers due to changes in stream flows. Because new information was available that resulted in less stringent limits, the less stringent limits meet antibacksliding requirements. The monitoring frequency was increased to 3/Day for the 0.4 MGD flow tier as specified by current DEQ guidance.
- Ammonia -N: The previous permit contained no limits for Ammonia -N. Limits were again determined to not be required for Ammonia -N at all flow tiers.
- Additional monitoring data is required at the 0.4 MGD flow tier for two pollutants. The permittee must monitor the effluent at Outfall 001 for the substances noted in Attachment A of the permit once after the start of the third year from the permit's effective date.
- A complete WQS toxics scan is required for the 1.0 MGD and 2.0 MGD flow tiers. This monitoring must be performed within 1 year of the issuance of the CTO for an expanded facility and must be reported using Attachment B of the permit.

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name:

Elkton STP

Receiving Stream:

South Fork Shanenadoah River

Permit No.: VA0026433

Date: 10/11/2011

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 133 mg/L
 90% Temperature (Annual) = 24.4 deg C
 90% Temperature (Wet season) = deg C
 90% Maximum pH = 8.8 SU
 10% Maximum pH = 7.6 SU
 Tier Designation = 1
 Public Water Supply (PWS) Y/N? = N
 V(alley) or P(iedmont)? = V
 Trout Present Y/N? = N
 Early Life Stages Present Y/N? = Y

Stream Flows

1Q10 (Annual) = 114 MGD
 7Q10 (Annual) = 120 MGD
 30Q10 (Annual) = 131 MGD
 1Q10 (Wet season) = 171 MGD
 30Q10 (Wet season) = 219 MGD
 30Q5 = 149 MGD
 Harmonic Mean = 360 MGD

Mixing Information

Annual - 1Q10 Flow = 29.54 %
 - 7Q10 Flow = 100 %
 - 30Q10 Flow = 100 %
 Wet Season - 1Q10 Flow = %
 - 30Q10 Flow = %

Effluent Information

Mean Hardness (as CaCO₃) = 166 mg/L
 90% Temp (Annual) = 24.2 deg C
 90% Temp (Wet season) = 14.9 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 7.1 SU
 Current Discharge Flow = 0.400 MGD
 Discharge Flow for Limit Analysis = 0.400 MGD

Footnotes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
- All flow values are expressed as Million Gallons per Day (MGD).
- Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
- Hardness expressed as mg/l CaCO₃. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO₃.
- "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
- Carcinogen "Y" indicates carcinogenic parameter.
- Ammonia WQSs selected from separate tables, based on pH and temperature.
- Metals measured as Dissolved, unless specified otherwise.
- WLA = Waste Load Allocation (based on standards).
- WLA = Waste Load Allocation (based on standards).
- WLAs are based on mass balances (less background, if data exist).
- Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
- Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
- Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
- Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

Facility Name:

Elkton STP

Receiving Stream:

South Fork Shanenadoah River

Permit No.:

VA0026433

Date:

10/11/2011

WATER QUALITY CRITERIA

0.400 MGD Discharge Flow - Mix per "Mixer"

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS

0.400 MGD Discharge - Mix per "Mixer"

Toxic Parameter and Form	Carcinogen?	Aquatic Protection		Human Health	
		Acute	Chronic	Public Water Supplies	Other Surface Waters
Ammonia-N (Annual)	N	2.2E+00 mg/L	3.7E-01 mg/L	None	None
Chlorine, Total Residual	N	1.9E-02 mg/L	1.1E-02 mg/L	None	None
DDD	Y	None	None	3.1E-03	3.1E-03
Beta-Endosulfan	N	2.2E-01	5.6E-02	6.2E+01	8.9E+01
Endrin	N	8.6E-02	3.6E-02	5.9E-02	6.0E-02

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name:

Elkton STP

Receiving Stream:

South Fork Shenandoah River

Permit No.: VA0026433

Date: 10/11/2011

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 133 mg/L
 90% Temperature (Annual) = 24.4 deg C
 90% Temperature (Wet season) = deg C
 90% Maximum pH = 8.8 SU
 10% Maximum pH = 7.6 SU
 Tier Designation = ↑
 Public Water Supply (PWS) Y/N? = N
 V(alley) or P(iedmont)? = V
 Trout Present Y/N? = N
 Early Life Stages Present Y/N? = Y

Stream Flows

1Q10 (Annual) = 114 MGD
 7Q10 (Annual) = 120 MGD
 30Q10 (Annual) = 131 MGD
 1Q10 (Wet season) = 171 MGD
 30Q10 (Wet season) = 219 MGD
 30Q5 = 149 MGD
 Harmonic Mean = 360 MGD

Mixing Information

Annual - 1Q10 Flow = 29.69 %
 - 7Q10 Flow = 100 %
 - 30Q10 Flow = 100 %
 Wet Season - 1Q10 Flow = %
 - 30Q10 Flow = %

Effluent Information

Mean Hardness (as CaCO₃) = 166 mg/L
 90% Temp (Annual) = 24.2 deg C
 90% Temp (Wet season) = 14.9 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 7.1 SU
 Current Discharge Flow = 0.400 MGD
 Discharge Flow for Limit Analysis = 1.000 MGD

Footnotes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
- All flow values are expressed as Million Gallons per Day (MGD).
- Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
- Hardness expressed as mg/l CaCO₃. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO₃.
- "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
- Carcinogen "Y" indicates carcinogenic parameter.
- Ammonia WQSs selected from separate tables, based on pH and temperature.
- Metals measured as Dissolved, unless specified otherwise.
- WLA = Waste Load Allocation (based on standards).
- WLA = Waste Load Allocation (based on standards).
- WLAs are based on mass balances (less background, if data exist).
- Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
- Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
- Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
- Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

Facility Name:

Elkton STP

Receiving Stream:

South Fork Shenandoah River

Permit No.:

VA0026433

Date:

10/11/2011

POST - EXPANSION WATER QUALITY CRITERIA

1.000 MGD Discharge Flow - Mix per "Mixer"

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS

1.000 MGD Discharge - Mix per "Mixer"

Toxic Parameter and Form

Ammonia-N (Annual)
 Chlorine, Total Residual

Carcinogen?

N
 N

Aquatic Protection

Acute Chronic
 2.8E+00 mg/L 3.9E-01 mg/L
 1.9E-02 mg/L 1.1E-02 mg/L

Human Health

Public Water Other Surface
 Supplies Waters
 None None
 None None

Aquatic Protection

Acute Chronic Health
 9.7E+01 mg/L 5.2E+01 mg/L N/A
 6.6E-01 mg/L 1.3E+00 mg/L N/A

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name:

Elkton STP

Receiving Stream:


South Fork Shenandoah River

Permit No.: VA0026433

Date: 10/11/2011

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 133 mg/L
 90% Temperature (Annual) = 24.4 deg C
 90% Temperature (Wet season) = deg C
 90% Maximum pH = 8.8 SU
 10% Maximum pH = 7.6 SU
 Tier Designation = 
 Public Water Supply (PWS) Y/N? = N
 V(alley) or P(iedmont)? = V
 Trout Present Y/N? = N
 Early Life Stages Present Y/N? = Y

Stream Flows

1Q10 (Annual) = 114 MGD
 7Q10 (Annual) = 120 MGD
 30Q10 (Annual) = 131 MGD
 1Q10 (Wet season) = 171 MGD
 30Q10 (Wet season) = 219 MGD
 30Q5 = 149 MGD
 Harmonic Mean = 360 MGD

Mixing Information

Annual - 1Q10 Flow = 29.92 %
 - 7Q10 Flow = 100 %
 - 30Q10 Flow = 100 %
 Wet Season - 1Q10 Flow = %
 - 30Q10 Flow = %

Effluent Information

Mean Hardness (as CaCO₃) = 166 mg/L
 90% Temp (Annual) = 24.2 deg C
 90% Temp (Wet season) = 14.9 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 7.1 SU
 Current Discharge Flow = 0.400 MGD
 Discharge Flow for Limit Analysis = 2.000 MGD

Footnotes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
- All flow values are expressed as Million Gallons per Day (MGD).
- Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
- Hardness expressed as mg/l CaCO₃. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO₃.
- "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
- Carcinogen "Y" indicates carcinogenic parameter.
- Ammonia WQSs selected from separate tables, based on pH and temperature.
- Metals measured as Dissolved, unless specified otherwise.
- WLA = Waste Load Allocation (based on standards).
- WLA = Waste Load Allocation (based on standards).
- WLAs are based on mass balances (less background, if data exist).
- Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
- Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
- Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
- Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

Facility Name:

Elkton STP

Receiving Stream:

South Fork Shenandoah River

Permit No.:

VA0026433

Date:

10/11/2011

POST - EXPANSION WATER QUALITY CRITERIA

2.000 MGD Discharge Flow - Mix per "Mixer"

Human Health

Aquatic Protection

Acute	Chronic
3.7E+00 mg/L	4.4E-01 mg/L
1.9E-02 mg/L	1.1E-02 mg/L

Public Water

Supplies
None
None

Other Surface

Waters
None
None

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS

2.000 MGD Discharge - Mix per "Mixer"

Aquatic Protection

Acute	Chronic
6.6E+01 mg/L	2.9E+01 mg/L
3.4E-01 mg/L	6.7E-01 mg/L

Human

Health
N/A
N/A

Toxic Parameter and Form

	Carcinogen?
Ammonia-N (Annual)	N
Chlorine, Total Residual	N

PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh} , the WLA_{hh} was imposed as the limit.

Since there are no data available for any toxic pollutants immediately upstream of this discharge, all upstream (background) pollutant concentrations are assumed to be "0".

The steps used in evaluating the effluent data are as follows:

- A. If all data are reported as "below detection" or $<$ the required Quantification Level (QL), and at least one detection level is $=$ the required QL, then the pollutant is considered to be not significantly present in the discharge and no further monitoring is required.
- B. If all data are reported as "below detection", and all detection levels are $>$ the required QL, then an evaluation is performed in which the pollutant is assumed present at the lowest reported detection level.
 - B.1. If the evaluation indicates that no limits are needed, then the existing data set is adequate and no further monitoring is required.
 - B.2. If the evaluation indicates that limits are needed, then the existing data set is inadequate to make a determination and additional monitoring is required.
- C. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.
 - C.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.
 - C.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the draft permit.
 - C.3. (Exception for Metals data only) If the evaluation indicates that limits are needed, but the data are reported as a form other than "Dissolved", then the existing data set is inadequate to make a determination and additional monitoring is required.

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

TOXLARGE – 0.4 MGD Flow Tier

Parameter	CASRN	Type	QL (µg/L)	Data (µg/L unless noted otherwise)	Source of Data	Data Eval
Acenaphthene	83-32-9	B	10.0	<10.0	a	A
Acrolein	107-02-8	V	---	<50.0	a	A
Acrylonitrile ^C	107-13-1	V	---	<50.0	a	A
Aldrin ^C	309-00-2	P	0.05	<0.050	a	A
Ammonia-N (mg/L)	766-41-7	X	0.2 mg/L	Default = 9 mg/L	b	C.1
Anthracene	120-12-7	B	10.0	<10.0	a	A
Antimony, dissolved	7440-36-0	M	0.2	Previously evaluated, no further monitoring required	---	---
Arsenic, dissolved	7440-38-2	M	1.0	Previously evaluated, no further monitoring required	---	---
Benzene ^C	71-43-2	V	10.0	<5.0	a	A
Benzidine ^C	92-87-5	B	---	Previously evaluated, no further monitoring required	---	---
Benzo (a) anthracene ^C	56-55-3	B	10.0	<10.0	a	A
Benzo (b) fluoranthene ^C	205-99-2	B	10.0	<10.0	a	A
Benzo (k) fluoranthene ^C	207-08-9	B	10.0	<10.0	a	A
Benzo (a) pyrene ^C	50-32-8	B	10.0	<10.0	a	A
Bis2-Chloroethyl Ether ^C	111-44-4	B	---	<10.0	a	A
Bis2-Chloroisopropyl Ether	108-60-1	B	---	<10.0	a	A
Bis (2-ethylhexyl) Phthalate ^C	117-81-7	B	10.0	<10.0	a	A
Bromoform ^C	75-25-2	V	10.0	<5.0	a	A
Butylbenzylphthalate	85-68-7	B	10.0	<10.0	a	A
Cadmium, dissolved	7440-43-9	M	0.3	Previously evaluated, no further monitoring required	---	---
Carbon Tetrachloride ^C	56-23-5	V	10.0	<5.0	a	A
Chlordane ^C	57-74-9	P	0.2	<0.2, <1.0	a	A
Chloride (mg/L)	16887-00-6	X	---	Previously evaluated, no further monitoring required	---	---
TRC (mg/L)	7782-50-5	X	0.1 mg/L	Default = 20 mg/L	b	C.2
Chlorobenzene	108-90-7	V	50.0	<5.0	a	A
Chlorodibromomethane ^C	124-48-1	V	10.0	<5.0	a	A
Chloroform	67-66-3	V	10.0	<5.0	a	A
2-Chloronaphthalene	91-58-7	B	---	<10.0	a	A
2-Chlorophenol	95-57-8	A	10.0	<10.0	a	A
Chlorpyrifos	2921-88-2	P	---	Previously evaluated, no further monitoring required	---	---
Chromium III, dissolved	16065-83-1	M	0.5	Previously evaluated, no further monitoring required	---	---
Chromium VI, dissolved	18540-29-9	M	0.5	Previously evaluated, no further monitoring required	---	---
Chrysene ^C	218-01-9	B	10.0	<10.0	a	A
Copper, dissolved	7440-50-8	M	0.5	Previously evaluated, no further monitoring required	---	---
Cyanide, Free	57-12-5	X	10.0	Previously evaluated, no further monitoring required	---	---
DDD ^C	72-54-8	P	0.1	<0.150	a	B.1
DDE ^C	72-55-9	P	0.1	<0.050	a	A
DDT ^C	50-29-3	P	0.1	Previously evaluated, no further monitoring required	---	---
Demeton	8065-48-3	P	---	Previously evaluated, no further monitoring required	---	---
Diazinon	333-41-5	P	---	NEW REQUIREMENT. Needs to be sampled.	---	---
Dibenz(a,h)anthracene ^C	53-70-3	B	20.0	<10.0	a	A

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

Parameter	CASRN	Type	QL (µg/L)	Data (µg/L unless noted otherwise)	Source of Data	Data Eval
1,2-Dichlorobenzene	95-50-1	B	10.0	<10.0	a	A
1,3-Dichlorobenzene	541-73-1	B	10.0	<10.0	a	A
1,4-Dichlorobenzene	106-46-7	B	10.0	<10.0	a	A
3,3-Dichlorobenzidine ^C	91-94-1	B	---	<20.0	a	A
Dichlorobromomethane ^C	75-27-4	V	10.0	<5.0	a	A
1,2-Dichloroethane ^C	107-06-2	V	10.0	<5.0	a	A
1,1-Dichloroethylene	75-35-4	V	10.0	<5.0	a	A
1,2-trans-dichloroethylene	156-60-5	V	---	<5.0	a	A
2,4-Dichlorophenol	120-83-2	A	10.0	<10.0	a	A
1,2-Dichloropropane ^C	78-87-5	V	---	<5.0	a	A
1,3-Dichloropropene ^C	542-75-6	V	---	Previously evaluated, no further monitoring required	---	---
Dieldrin ^C	60-57-1	P	---	<0.050	a	A
Diethyl Phthalate	84-66-2	B	10.0	<10.0	a	A
2,4-Dimethylphenol	105-67-9	A	10.0	<10.0	a	A
Dimethyl Phthalate	131-11-3	B	---	<10.0	a	A
Di-n-Butyl Phthalate	84-74-2	B	10.0	<10.0	a	A
2,4-Dinitrophenol	51-28-5	A	---	<50.0	a	A
2-Methyl-4,6-Dinitrophenol	534-52-1	A	---	Previously evaluated, no further monitoring required	---	---
2,4-Dinitrotoluene ^C	121-14-2	B	10.0	<10.0	a	A
1,2-Diphenylhydrazine ^C	122-66-7	B	---	<20.0	a	A
Alpha-Endosulfan (syn = Alpha-Endosulfan I)	959-98-8	P	0.1	<0.050	a	A
Beta-Endosulfan (syn = Alpha-Endosulfan II)	33213-65-9	P	0.1	<0.150	a	B.1
Alpha-Endosulfan + Beta-Endosulfan		P	---	<0.20	a	A
Endosulfan Sulfate	1031-07-8	P	0.1	<0.1, <0.150	a	A
Endrin	72-20-8	P	0.1	<0.150	a	B.1
Endrin Aldehyde	7421-93-4	P	---	<0.20	a	A
Ethylbenzene	100-41-4	V	10.0	<5.0	a	A
Fluoranthene	206-44-0	B	10.0	<10.0	a	A
Fluorene	86-73-7	B	10.0	<10.0	a	A
Guthion	86-50-0	P	---	Previously evaluated, no further monitoring required	---	---
Heptachlor ^C	76-44-8	P	0.05	<0.050	a	A
Heptachlor Epoxide ^C	1024-57-3	P	---	<0.050	a	A
Hexachlorobenzene ^C	118-74-1	B	---	<10.0	a	A
Hexachlorobutadiene ^C	87-68-3	B	---	<5.0	a	A
Hexachlorocyclohexane Alpha-BHC ^C	319-84-6	P	---	<0.050	a	A
Hexachlorocyclohexane Beta-BHC ^C	319-85-7	P	---	<0.050	a	A
Hexachlorocyclohexane Gamma-BHC ^C (syn. = Lindane)	58-89-9	P	---	<0.040	a	A
Hexachlorocyclopentadiene	77-47-4	B	---	<10.0	a	A
Hexachloroethane ^C	67-72-1	B	---	<10.0	a	A
Hydrogen Sulfide	7783-06-4	X	---	Previously evaluated, no further monitoring required	---	---
Indeno (1,2,3-cd) pyrene ^C	193-39-5	B	20.0	<10.0	a	A
Isophorone ^C	78-59-1	B	10.0	<10.0	a	A

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

Parameter	CASRN	Type	QL (µg/L)	Data (µg/L unless noted otherwise)	Source of Data	Data Eval
Kepone	143-50-0	P	---	<0.2	a	A
Lead, dissolved	7439-92-1	M	0.5	Previously evaluated, no further monitoring required	---	---
Malathion	121-75-5	P	---	Previously evaluated, no further monitoring required	---	---
Mercury, dissolved	7439-97-6	M	1.0	Previously evaluated, no further monitoring required	---	---
Methyl Bromide	74-83-9	V	---	Previously evaluated, no further monitoring required	---	---
Methylene Chloride ^C	75-09-2	V	20.0	<20.0	a	A
Methoxychlor	72-43-5	P	---	<0.40	a	A
Mirex	2385-85-5	P	---	Previously evaluated, no further monitoring required	---	---
Nickel, dissolved	7440-02-0	M	0.5	Previously evaluated, no further monitoring required	---	---
Nitrobenzene	98-95-3	B	10.0	<10.0	a	A
N-Nitrosodimethylamine ^C	62-75-9	B	---	<20.0	a	A
N-Nitrosodiphenylamine ^C	86-30-6	B	---	<10.0	a	A
N-Nitrosodi-n-propylamine ^C	621-64-7	B	---	<10.0	a	A
Nonylphenol	104-40-51	A	---	NEW REQUIREMENT. Needs to be sampled.	---	---
Parathion	56-38-2	P	---	Previously evaluated, no further monitoring required	---	---
PCB Total ^C	1336-36-3	p	---	Previously evaluated, no further monitoring required	---	---
Pentachlorophenol ^C	87-86-5	A	50.0	<50.0	a	A
Phenol	108-95-2	A	10.0	<10.0	a	A
Pyrene	129-00-0	B	10.0	<10.0	a	A
Selenium, total recoverable	7782-49-2	M	2.0	Previously evaluated, no further monitoring required	---	---
Silver, dissolved	7440-22-4	M	0.2	Previously evaluated, no further monitoring required	---	---
1,1,2,2-Tetrachloroethane ^C	79-34-5	V	---	<5.0	a	A
Tetrachloroethylene ^C	127-18-4	V	10.0	Previously evaluated, no further monitoring required	---	---
Thallium, dissolved	7440-28-0	M	---	Previously evaluated, no further monitoring required	---	---
Toluene	108-88-3	V	10.0	<5.0	a	A
Toxaphene ^C	8001-35-2	P	5.0	<1.0	a	A
Tributyltin	60-10-5	P	---	Previously evaluated, no further monitoring required	---	---
1,2,4-Trichlorobenzene	120-82-1	B	10.0	<10.0	a	A
1,1,2-Trichloroethane ^C	79-00-5	V	---	<5.0	a	A
Trichloroethylene ^C	79-01-6	V	10.0	<5.0	a	A
2,4,6-Trichlorophenol ^C	88-06-2	A	10.0	<10.0	a	A
Vinyl Chloride ^C	75-01-4	V	10.0	<10.0	a	A
Zinc, dissolved	7440-66-6	M	2.0	Previously evaluated, no further monitoring required	---	---

TOXLARGE – 1.0 & 2.0 MGD Flow Tiers

Parameter	CASRN	QL (ug/L)	Data (ug/L unless noted otherwise)	Source of Data	Data Eval
Ammonia-N (mg/L) (Annual) (Jun-Dec)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.1
Ammonia-N (mg/L) (Wet Season) (Jan-May)	766-41-7	0.2 mg/L	Default = 9 mg/L	b	C.1
TRC (mg/L)	7782-50-5	0.1 mg/L	Default = 20 mg/L	b	C.2
Monitoring for all other applicable parameters is required within 1 year of the issuance of the CTO for the 1.0 or 2.0 MGD facility.					

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

"Type" column indicates a category assigned to the referenced substance (see below):

A = Acid Extractable Organic Compounds

B = Base/Neutral Extractable Organic Compounds

M = Metals

p = PCBs

P = Pesticides

R = Radionuclides

V = Volatile Organic Compounds

X = Miscellaneous Compounds and Parameters

CASRN = Chemical Abstract Service Registry Number for each parameter is referenced in the current Water Quality Standards. A unique numeric identifier designating only one substance. The Chemical Abstract Service is a division of the American Chemical Society.

"Source of Data" codes:

a = data from permittee monitoring

b = default effluent concentration

c = DEQ sample

"Data Evaluation" codes:

See section titled PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS for an explanation of the code used.

The **superscript "C"** following the parameter name indicates that the substance is a known or suspected carcinogen; human health criteria at risk level 10^{-5} .

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

STAT.EXE Results – 0.4 MGD Flow Tier

Ammonia-N

Chronic averaging period = 30

WLAa = 190

WLAc = 120

Q.L. = 0.2

samples/mo. = 12

samples/wk. = 3

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 9

Endrin

Chronic averaging period = 4

WLAa = 7.3

WLAc = 11

Q.L. = 0.1

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = .15

Variance = .0081

C.V. = 0.6

97th percentile daily values = .365012

97th percentile 4 day average = .249568

97th percentile 30 day average = .180907

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 0.15

TRC

Chronic averaging period = 4

WLAa = 1.6

WLAc = 3.3

Q.L. = 0.1

samples/mo. = 90

samples/wk. = 21

Summary of Statistics:

observations = 1

Expected Value = 20

Variance = 144

C.V. = 0.6

97th percentile daily values = 48.6683

97th percentile 4 day average = 33.2758

97th percentile 30 day average = 24.1210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 1.6

Average Weekly Limit = 0.833137232192763

Average Monthly Limit = 0.735732277015972

The data are: 20

Beta-Endosulfan

Chronic averaging period = 4

WLAa = 19

WLAc = 17

Q.L. = 0.1

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = .15

Variance = .0081

C.V. = 0.6

97th percentile daily values = .365012

97th percentile 4 day average = .249568

97th percentile 30 day average = .180907

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 0.15

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

STAT.EXE Results – 1.0 MGD Flow Tier

Ammonia-N (Annual)

Chronic averaging period = 30

WLAa = 97

WLAc = 52

Q.L. = 0.2

samples/mo. = 20

samples/wk. = 5

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 9

STAT.EXE Results – 2.0 MGD Flow Tier

Ammonia-N (Annual)

Chronic averaging period = 30

WLAa = 66

WLAc = 29

Q.L. = 0.2

samples/mo. = 20

samples/wk. = 5

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 9

TRC

Chronic averaging period = 4

WLAa = 0.66

WLAc = 1.3

Q.L. = 0.1

samples/mo. = 120

samples/wk. = 28

Summary of Statistics:

observations = 1

Expected Value = 20

Variance = 144

C.V. = 0.6

97th percentile daily values = 48.6683

97th percentile 4 day average = 33.2758

97th percentile 30 day average = 24.1210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 0.66

Average Weekly Limit = 0.333339038765378

Average Monthly Limit = 0.299166730334569

The data are: 20

TRC

Chronic averaging period = 4

WLAa = 0.34

WLAc = 0.67

Q.L. = 0.1

samples/mo. = 120

samples/wk. = 28

Summary of Statistics:

observations = 1

Expected Value = 20

Variance = 144

C.V. = 0.6

97th percentile daily values = 48.6683

97th percentile 4 day average = 33.2758

97th percentile 30 day average = 24.1210

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 0.34

Average Weekly Limit = 0.171720110879134

Average Monthly Limit = 0.154116194414778

The data are: 20

APPENDIX D

RATIONALE FOR WHOLE EFFLUENT TOXICITY (WET) REQUIREMENTS

Applicability of TMP: Based upon current guidance (GM No. 00-2012, Toxics Management Program Implementation Guidance, 08/24/00), this discharge qualifies as being subject to Whole Effluent Toxicity (WET) monitoring because it is a Publicly Owned Treatment Works and is a major facility with permitted flows = 1.0 MGD.

Summary of Toxicity Testing: In the previous permit, no WET monitoring was required for the existing 0.4 MGD facility; therefore, there are no data for analysis. The current permit requires chronic WET testing for the 1.0 MGD and 2.0 MGD flow tiers using *Ceriodaphnia dubia* and *Pimephales promelas*. Acute WET testing was not required in the previous permit.

Toxicity Testing for the Reissued Permit: The reissued permit continues to contain no WET requirements for the 0.4 MGD facility since the flow is < 1.0 MGD and the facility has no pretreatment requirements or toxicity concerns. Acute monitoring has been required for both the 1.0 MGD and the 2.0 MGD flow tiers, and chronic monitoring has been required for the 2.0 MGD flow tier. Chronic monitoring has not been required for the 1.0 MGD flow tier because the $IWC_c < 1\%$.

A most-sensitive species has not been selected, and both species (*Ceriodaphnia dubia* and *Pimephales promelas*) are to be used for the toxicity testing. The frequency of testing is quarterly for the first 4 quarters once an expanded facility is operational. The results from the quarterly testing will be evaluated using to determine if there is a need for WET limits. The toxicity data will be analyzed separately by species and test type (acute or chronic). If no limits are deemed necessary, the facility may move to annual monitoring for the remainder of the permit term.

Dilution Series: The dilution series recommended for acute WET testing is the standard 0.5 series. The dilution series recommended for the chronic WET testing is shown below.

Design Flow (MGD)	Recommended Chronic Dilution Series, %
1.0	N/A
2.0	100, 24, 5.6* , 1.3, 0.4

*The midpoint of the chronic dilution series is 5.6%. The midpoint is derived from the highest anticipated mean of the data (expressed as Chronic Toxicity Unit (TU_c)) that will not trigger a limit in the Department's Stat.exe program. In this case, the 5.6% is equivalent to a TU_c of 17.86. This midpoint was evaluated to determine if limits would be inappropriately triggered (Table 3). Since no limit was triggered by the midpoint, the recommended dilution series can be used without the need for adjustment.

Reviewer: BWC

Date: 7/19/11

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

Table 1
1.0 MGD WETLim10.xls Spreadsheet

Spreadsheet for determination of WET test endpoints or WET limits									
Excel 97		Acute Endpoint/Permit Limit		Use as LC ₅₀ in Special Condition, as TU _a on DMR					
Revision Date: 01/10/05		ACUTE 8.3628302 TU _a		LC ₅₀ = 12 % Use as 8.33 TU _a					
File: WETLim10.xls (MIX.EXE required also)		ACUTE WLA _a 8.36283		Note: Inform the permittee that if the mean of the data exceeds this TU _a : 2.34973262 a limit may result using WLA.EXE					
		Chronic Endpoint/Permit Limit		Use as NOEC in Special Condition, as TU _c on DMR					
		CHRONIC 83.628302 TU _c		NOEC = 2 % Use as 50.00 TU _c					
		BOTH* 83.628302 TU _c		NOEC = 2 % Use as 50.00 TU _c					
		AML 83.628302 TU _c		NOEC = 2 % Use as 50.00 TU _c					
Enter data in the cells with blue type:		ACUTE WLA _{a,c} 83.6283		Note: Inform the permittee that if the mean of the data exceeds this TU _c : 34.366605 a limit may result using WLA.EXE					
		CHRONIC WLA _c 108		* Both means acute expressed as chronic					
		% Flow to be used from MIX.EXE		Difuser /modeling study?					
Plant Flow: 1 MGD				Enter Y/N N					
Acute 1Q10: 101 MGD		26.61 %		Acute 1 :1					
Chronic 7Q10: 107 MGD		100 %		Chronic 1 :1					
Are data available to calculate CV? (Y/N)		N		(Minimum of 10 data points, same species, needed)				Go to Page 2	
Are data available to calculate ACR? (Y/N)		N		(NOEC<LC50, do not use greater/less than data)				Go to Page 3	
IWC _a 3.587302384 %		Plant flow/plant flow + 1Q10		NOTE: If the IWC _a is >33%, specify the NOAEC = 100% test/endpoint for use					
IWC _c 0.925925926 %		Plant flow/plant flow + 7Q10							
Dilution, acute 27.8761		100/IWC _a							
Dilution, chronic 108		100/IWC _c							
WLA _a 8.36283		Instream criterion (0.3 TU _a) X's Dilution, acute							
WLA _c 108		Instream criterion (1.0 TU _c) X's Dilution, chronic							
WLA _{a,c} 83.6283		ACR X's WLA _a - converts acute WLA to chronic units							
ACR -acute/chronic ratio 10		LC50/NOEC (Default is 10 - if data are available, use tables Page 3)							
CV-Coefficient of variation 0.6		Default of 0.6 - if data are available, use tables Page 2)							
Constants eA 0.4109447		Default = 0.41							
eB 0.6010373		Default = 0.60							
eC 2.4334175		Default = 2.43							
eD 2.4334175		Default = 2.43 (1 samp)							
		No. of sample 1		**The Maximum Daily Limit is calculated from the lowest LTA, X's eC. The LTA _{a,c} and MDL using it are driven by the ACR.					
LTA _{a,c} 34.36660666		WLA _{a,c} X's eA							
LTA _c 64.9120284		WLA _c X's eB		Rounded NOEC's %					
MDL** with LTA _{a,c} 83.62830205 TU _c		NOEC = 1.195767		(Protects from acute/chronic toxicity)				NOEC = 2 %	
MDL** with LTA _c 157.9580659 TU _c		NOEC = 0.633079		(Protects from chronic toxicity)				NOEC = 1 %	
AML with lowest LTA 83.62830205 TU _c		NOEC = 1.195767		Lowest LTA X's eD				NOEC = 2 %	
IF ONLY ACUTE ENDPOINT/LIMIT IS NEEDED, CONVERT MDL FROM TU _c to TU _a									
MDL with LTA _{a,c} 8.362830205 TU _a		LC50 = 11.957674 %		Rounded LC50's %					
MDL with LTA _c 15.79580659 TU _a		LC50 = 6.330794 %		LC50 = 12 %					
				LC50 = 7 %					

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

Table 2
2.0 MGD WETLim10.xls Spreadsheet

Spreadsheet for determination of WET test endpoints or WET limits									
Excel 97									
Revision Date: 01/10/05									
File: WETLim10.xls (MIX.EXE required also)									
		Acute Endpoint/Permit Limit				Use as LC₅₀ in Special Condition, as TU_a on DMR			
		ACUTE	4.36777511	TU _a	LC ₅₀ =	23	% Use as	4.34	TU _a
		ACUTE WLA _a	4.367775	Note: Inform the permittee that if the mean of the data exceeds this TU _a : 1.22722851 a limit may result using WLA.EXE					
		Chronic Endpoint/Permit Limit				Use as NOEC in Special Condition, as TU_c on DMR			
		CHRONIC	43.6777511	TU _c	NOEC =	3	% Use as	33.33	TU _c
		BOTH*	43.6777511	TU _c	NOEC =	3	% Use as	33.33	TU _c
		AML	43.6777511	TU _c	NOEC =	3	% Use as	33.33	TU _c
Enter data in the cells with blue type:									
Entry Date:	04/29/11	ACUTE WLA _{a,c}		43.67775	Note: Inform the permittee that if the mean of the data exceeds this TU _c : 17.949139 a limit may result using WLA.EXE				
Facility Name:	Elkton STP	CHRONIC WLA _c		54.5					
VPDES Number:	VA0026433	* Both means acute expressed as chronic							
Outfall Number:	001								
Plant Flow:	2 MGD	% Flow to be used from MIX.EXE				Difuser /modeling study?			
Acute 1Q10:	101 MGD	26.85 %				Enter Y/N N			
Chronic 7Q10:	107 MGD	100 %				Acute 1:1			
						Chronic 1:1			
Are data available to calculate CV? (Y/N)		N		(Minimum of 10 data points, same species, needed)				Go to Page 2	
Are data available to calculate ACR? (Y/N)		N		(NOEC<LC50, do not use greater/less than data)				Go to Page 3	
IWC _a	6.868485671 %	Plant flow/plant flow + 1Q10		NOTE: If the IWC _a is >33%, specify the NOAEC = 100% test/endpoint for use					
IWC _c	1.834862385 %	Plant flow/plant flow + 7Q10							
Dilution, acute	14.55925	100/IWC _a							
Dilution, chronic	54.5	100/IWC _c							
WLA _a	4.367775	Instream criterion (0.3 TU _a) X's Dilution, acute							
WLA _c	54.5	Instream criterion (1.0 TU _c) X's Dilution, chronic							
WLA _{a,c}	43.67775	ACR X's WLA _a - converts acute WLA to chronic units							
ACR -acute/chronic ratio	10	LC50/NOEC (Default is 10 - if data are available, use tables Page 3)							
CV-Coefficient of variation	0.6	Default of 0.6 - if data are available, use tables Page 2)							
Constants	eA	0.4109447	Default = 0.41						
	eB	0.6010373	Default = 0.60						
	eC	2.4334175	Default = 2.43						
	eD	2.4334175	Default = 2.43 (1 samp)						
		No. of sample	1		**The Maximum Daily Limit is calculated from the lowest LTA, X's eC. The LTA _{a,c} and MDL using it are driven by the ACR.				
LTA _{a,c}	17.94913987	WLA _{a,c} X's eA							
LTA _c	32.75653285	WLA _c X's eB							
MDL** with LTA _{a,c}	43.67775107	TU _c	NOEC =	2.289495	(Protects from acute/chronic toxicity)		NOEC =	3	
MDL** with LTA _c	79.71032028	TU _c	NOEC =	1.254543	(Protects from chronic toxicity)		NOEC =	2	
AML with lowest LTA	43.67775107	TU _c	NOEC =	2.289495	Lowest LTA X's eD		NOEC =	3	
IF ONLY ACUTE ENDPOINT/LIMIT IS NEEDED, CONVERT MDL FROM TU _c to TU _a									
MDL with LTA _{a,c}	4.367775107	TU _a	LC50 =	22.894952			LC50 =	23	
MDL with LTA _c	7.971032028	TU _a	LC50 =	12.545427			LC50 =	13	

DILUTION SERIES TO RECOMMEND			
	Monitoring	Limit	
	% Effluent	TU _c	TU _c
Dilution series based on data mean	5.6	17.949139	
Dilution series to use for limit		3	33.333333
Dilution factor to recommend:	0.236036	0.1732051	
Dilution series to recommend:	100.0	1.00	100.0
	23.6	4.24	5.77
	5.6	17.86	33.33
	1.3	76.04	192.45
	0.31	322.17	1111.11
Extra dilutions if needed	0.07	1364.93	6415.00
	0.02	5782.70	37037.04

Fact Sheet – VPDES Permit No. VA0026433 – Elkton STP

Table 3
Stat.exe Results

Chemical = WET TUc Midpoint Check, 2.0 MGD
Chronic averaging period = 4
WLA_{A,c} = 43.67775
WLA_c = 54.5
Q.L. = 1.0
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 17.86
Variance = 114.832
C.V. = 0.6
97th percentile daily values = 43.4608
97th percentile 4 day average = 29.7152
97th percentile 30 day average = 21.5401
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are: 17.86

APPENDIX E

PERMIT CHANGES AND BASES FOR SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page	<ul style="list-style-type: none">Content and format as prescribed by the VPDES Permit Manual.
Part I.A.1.	<p>Effluent Limitations and Monitoring Requirements - 0.4 MGD: Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.</p> <p><i>Updates Part I.A.1. of the previous permit with the following:</i></p> <ul style="list-style-type: none">Bacteria footnote was removed and bacteria monitoring frequency was increased to 3/Week.A footnote was added referencing this facility's coverage under the Nutrient General Permit.
Part I.A.2.	<p>Effluent Limitations and Monitoring Requirements - 1.0 MGD: Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.</p> <p><i>Updates Part I.A.2. of the previous permit with the following:</i></p> <ul style="list-style-type: none">Loading limits for TN – Calendar Year and TP – Calendar Year were removed.Bacteria footnote was removed and bacteria monitoring frequency was increased to 5/Week.Monitoring requirements and associated footnotes for Orthophosphate, Nitrate plus Nitrite (as N), Total Nitrogen, and Total Phosphorus were removed.A footnote was added referencing this facility's coverage under the Nutrient General Permit.
Part I.A.3.	<p>Effluent Limitations and Monitoring Requirements - 2.0 MGD: Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.</p> <p><i>Updates Part I.A.3. of the previous permit with the following:</i></p> <ul style="list-style-type: none">Loading limits for TN – Calendar Year and TP – Calendar Year were removed.Bacteria footnote was removed and bacteria monitoring frequency was increased to 5/Week.Monitoring requirements and associated footnotes for Orthophosphate, Nitrate plus Nitrite (as N), Total Nitrogen, and Total Phosphorus were removed.A footnote was added referencing this facility's coverage under the Nutrient General Permit.
Part I.B.	<p>TRC Effluent Limitations and Monitoring Requirements: <i>Updates Part I.B of the previous permit.</i> Specifies both disinfection and effluent limits and monitoring requirements should the permittee elect to switch from alternate disinfection to chlorine disinfection. Required by Sewage Collection and Treatment (SCAT) Regulations and 9 VAC 25-260-170, Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.</p>
Part I.C.	<p>Effluent Limitations and Monitoring Requirements – Additional Instructions: <i>Updates Part I.C. of the previous permit.</i> Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.</p>
Part I.D.	<p>Pretreatment Program Requirements: <i>Identical to Part I.D. of the previous permit.</i> VPDES Permit Regulation, 9 VAC 25-31-730 through 900, and 40 CFR part 403 require certain existing and new sources of pollution to meet specified regulations.</p>

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- Part I.E. **Toxics Management Program Requirements:** *Updates Part I.E. of the previous permit.* VPDES Permit Regulation, 9 VAC 25-31-210 and 220 I, requires monitoring in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act.
- Part I.F.1. **95% Capacity Reopener:** *Identical to Part I.F.1. of the previous permit.* Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for certain permits.
- Part I.F.2. **Indirect Dischargers :** *Identical to Part I.F.2. of the previous permit.* Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 for all STPs that receive waste from someone other than the owner of the treatment works.
- Part I.F.3. **Materials Handling/Storage:** *Identical to Part I.F.3. of the previous permit.* 9 VAC 25-31-280.B.2. requires that the types and quantities of “wastes, fluids, or pollutants which are ... treated, stored, etc.” be addressed for all permitted facilities.
- Part I.F.4. **O&M Manual Requirement:** *Updates Part I.F.4. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs. Added requirement to describe procedures for documenting compliance with the permit requirement that there shall be no discharge of floating solids or visible foam in other than trace amounts.
- Part I.F.5. **CTC/CTO Requirement:** *Updates Part I.F.5. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs.
- Part I.F.6. **SMP Requirement:** *Updates Part I.F.7. of the previous permit.* VPDES Permit Regulation 9 VAC 25-31-100 P, 220 B 2, and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements are derived from the Virginia Pollution Abatement Permit Regulation (9 VAC 25-32-10 *et seq.*).
- Part I.F.7. **Licensed Operator Requirement:** *Identical to Part I.F.8. of the previous permit.* The VPDES Permit Regulation 9 VAC 25-31-200 C, the Code of Virginia 54.1-2300 *et seq.*, and Rules and Regulations for Waterworks and Wastewater Works Operators 18 VAC 160-20-10 *et seq.*, require licensure of operators. A class III license is indicated for the current facility, with a Class II indicated at expansion.
- Part I.F.8. **Reliability Class:** *Identical to Part I.F.9. of the previous permit.* Required by SCAT Regulations 9 VAC 25-790.
- Part I.F.9. **Water Quality Criteria Monitoring:** *Updates Part I.F.10. of the previous permit.* State Water Control Law at 62.1-44.21 authorizes the Board to request information needed to determine the discharge’s impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility’s effluent for the substances noted in Attachments A and B of this VPDES permit.
- Part I.F.10. **Treatment Works Closure Plan:** *Updates Part I.F.11. of the previous permit.* Closure plans are required for all STPs, per the State Water Control Law at 62.1-44.18.C. and 62.1-44.15:1.1., and the SCAT Regulations at 9 VAC 25-790-450.E. and 9 VAC 25-790-120.E.3.

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Part I.F.11. **Reopeners:**

Updates Part I.F.15. of the previous permit: a. Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

New Requirement: b. 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

Updates Part I.F.12. of the previous permit: c. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Updates Part I.F.6. of the previous permit: d. Required by the VPDES Permit Regulation, 9 VAC 25-31-220.C, for all permits issued to STPs.

Part I.F.12. **Suspension of concentration limits for E3/E4 facilities:** *New Requirement.* 9 VAC 25-40-70 B authorizes DEQ to approve an alternate compliance method to the technology-based effluent concentration limitations as required by subsection A of this section. Such alternate compliance method shall be incorporated into the permit of an Exemplary Environmental Enterprise (E3) facility or an Extraordinary Environmental Enterprise (E4) facility to allow the suspension of applicable technology-based effluent concentration limitations during the period the E3 or E4 facility has a fully implemented environmental management system that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.

Part I.F.13. **Storm Water Management:** *Updates Part I.F.16. of the previous permit.* VPDES Permit Regulation 9 VAC 25-31-10 defines discharges of storm water from municipal treatment plants with design flow of 1.0 MGD or more, or plants with approved pretreatment programs, as discharges of storm water associated with industrial activity. 9 VAC 25-31-120 requires a permit for these discharges.

Part II **Conditions Applicable to All VPDES Permits:** *Updates Part II of previous permit.* VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed. Part II,A.4. language added for Virginia Environmental Laboratory Accreditation Program (VELAP) per 1 VAC 30, Chapter 45: Certification for Noncommercial Environmental Laboratories, and 1 VAC 30, Chapter 46: Accreditation for Commercial Laboratories.

Deletions: Part I.F.13. (General Permit Controls) of the previous permit was removed at this reissuance because the facility has obtained coverage under the watershed general permit for nutrients.

Part I.F.14. (Total Nitrogen/Total Phosphorus Loadings) of the previous permit was removed at this reissuance because at 3.0 mg/L TN and 0.3 mg/L TP, the expansion flow tier loads will be less than the permitted design capacity; therefore, no offset plan is needed.

**State “Transmittal Checklist” to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Elkton STP

NPDES Permit Number: VA0026433

Permit Writer Name: Dawn Jeffries

Date: July 26, 2011

Major [X]

Minor []

Industrial []

Municipal []

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?	X		
5. Has there been any change in streamflow characteristics since the last permit was developed?	X		
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		X	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?		X	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?	X		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?	X		

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Dawn Jeffries</u>
Title	<u>Environmental Engineer</u>
Date	<u>July 26, 2011</u>